Digital input/output module CPX-AP-A-12DI4DO-M12-5P

Part number: 8129111

General operating condition

Data sheet

Feature	Value
Dimensions W x L x H	(incl. interlinking block) 50.1 mm x 107.3 mm x 57.5 mm
Width dimension	50.1 mm
Type of mounting	Screwed tightly
Product weight	98 g
Mounting position	Any
Ambient temperature	-20 °C ... 50 °C
Note on ambient temperature	Observe ambient temperature derating according to IEC 61131-2:2017
Storage temperature	-20 °C ... 70 °C
Relative air humidity	5 - 95 % Non-condensing
Nominal altitude of use above sea level	<= 2000 m ASL (> 79.5 kPa)
Max. installation height	3500 m
Information on max. installation height	> 2000 m ASL (< 79.5 kPa) Observe ambient temperature derating according to IEC 61131-2:2017
Corrosion resistance class (CRC)	1 - Low corrosion stress
Vibration resistance	Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6
Note on vibration resistance	SG1 on H-rail SG2 on direct mounting Transport application test with severity level 1 as per FN 942017-4 and EN 60068-2-6
Shock resistance	Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27
Note on shock resistance	30 g/11 ms as per EN 60068-2-27 SG1 on H-rail SG2 on direct mounting Shock test with severity level 1 as per FN 942017-5 and EN 60068-2-27
Protection class	III
Contamination level	2
Overvoltage category	II
Max. cable length	30 m outputs 30 m inputs
LABS (PWIS) conformity	VDMA24364-B2-L
Material fire test	UL94 V-0 (housing)
Note on materials	RoHS-compliant Halogen-free Free of phosphoric acid ester
Housing material	PC
Cover material	PBT-reinforced

Feature	Value
Material of screws	Steel, nickel-plated
O-ring material	FPM
Diagnostics via LED	(Outputs) Diagnostics per channel (outputs) power supply load (Inputs-Outputs) Diagnostics per module (Inputs-Outputs) Status per channel
Diagnose per internal communication	Load switch-off Communication error Short-circuit/overload in output signal Short circuit/overload in sensor supply Electronics/sensors overvoltage Load overvoltage Electronics/sensors undervoltage Load undervoltage
Max. address capacity inputs	2 byte
Max. address capacity outputs	1 byte
No. of outputs	4
Module parameters	Configuration of voltage monitoring, load supply PL Behavior after short circuit/overload at the output
Channel parameters	Input debounce time
Communication interface, protocol	AP
Note regarding operating voltage	SELV/PELV fixed power supplies required Note voltage drop
Note on nominal operating voltage DC	Protected Extra-Low-Voltage as per IEC 60204-1
Nominal operating voltage DC load	24 V
Permissible voltage fluctuations load	± 25 %
Nominal operating voltage DC for electronics/sensors	24 V
Permissible voltage fluctuations for electronics/sensors	± 25 %
Intrinsic current consumption at nominal operating voltage for electronics/sensors	Typically 40 mA
Intrinsic current consumption at nominal operating voltage load	Typically 5 mA
Power failure buffering	10 ms
Potential separation between the supply voltages electronics/sensor technology and load/valves	yes
Reverse polarity protection	yes
Electrical connection input, function	Digital input
Electrical connection input, connection type	6x socket
Electrical input connection, connection technology	M12x1 A-coded as per EN 61076-2-101
Electrical connection, input, number of pins/wires	5
Electrical connection for input, connection pattern	00995384
No. of inputs	12
Input characteristics	As per IEC 61131-2, type 3
Switching level	Signal 0: <= 5 V Signal 1: >= 11 V
Input switching logic	PNP (positive switching) 2-wire sensors as per IEC 61131-2 3-wire sensors as per IEC 61131-2
Input debounce time	0.1 ms 3 ms (standard) 10 ms 20 ms
Behavior after end of overload of the sensor supply	Automatic return
Fuse protection inputs (short circuit)	Internal electronic fuse per module
Max. residual current of inputs per module	1.8 A
Electrical isolation of inputs between channels	no
Digital inputs, electrical isolation of input - internal communication	yes
Electrical connection output, function	Digital output
Electrical connection output, connection type	2x socket

Feature	Value
Electrical connection output, connection technology	M12x1 A-coded as per EN 61076-2-101
Electrical output connection, number of pins/wires	5
Electrical connection for output, connection pattern	00995384
Characteristic curve outputs	As per IEC 61131-2, type 0.5
Switching logic at outputs	PNP (positive switching)
Fuse protection outputs (short circuit)	Internal electronic fuse per channel
Behavior after end of overload of the outputs	No automatic return
Output delay with resistive load	Signal change 0->1: < 200 µs Signal change 1->0: < 200 µs
Max. residual current of outputs per module	2 A
Electrical isolation of outputs between channels	no
Electrical isolation of outputs between channel - internal communication	yes
Max. power supply per channel	0.5 A